More information from ckts.info

Asterisk.ORG .   - -   The Asterisk website. Includes hardware compatibility list as well as downloads of Asterisk, www.asterisk.org

Digium.COM .   - -   The folks who wrote Asterisk. They gave Asterisk away in hopes that you will buy their FXS, FXO, and T1 PC plug-in cards, www.digium.com

Guide To Asterisk   - -   An excellent step-by-step tutorial on getting Asterisk up and running. Add the C*NET configs, and you're off and running, www.ckts.info/guidetoasterisk.php

Max's Hacks   - -   Max's hardware schematics and Asterisk (zaptel) hacks to make it all work, www.ckts.info/max-hax.php

Kyle Roberts   - -   Kyle's site about his Asterisk Server, www.penguintel.com

VoIP-Info.ORG   - -   A TIKI on VoIP in General, but with emphasis on Asterisk, www.voip-info.org

Zapata Telephony   - -   The authors of the "Zapata" voice-to-PC drivers, used in Asterisk, www.zapatatelephony.com

Informational Booklet

C*Net Web Site   --   ckts.info
C*NET is a project of participating members of TCI , ATCA, the UK's Telecom Heritage Group, and interested others.

C*Net
The Simplified Explanation

What is C*Net?

C*Net is a private telephone network used by telephone collectors, world- wide, to talk to each other without paying a connection fee per call. Telephone collectors have set up a software PBX on a PC using free Asterisk Software. Communications takes place over the Internet using VoIP (Voice over Internet Protocol). The Asterisk Software makes the PC function like a Telephone Central Office.

All of the PC's are interconnected, via the Internet, so users may call each other. Other users have extensions off the PC (or Central Office or PBX) and attach a standard phone to an ATA (Analog Terminal Adapter) and just pick up my phone, get dial tone, and dial another collector. The phone rings at the other end. They can then talk as long as they want. It can even be one antique rotary dial phone calling another antique rotary dial phone.

What are the requirements to get C*Net Service?

First you must have Internet Service.

There are two ways to get C*Net Service:

1) For simple service, so you can dial other telephone collectors, you need a small box to plug into your Internet Router (that is furnished by your Internet Provider). This box is called an ATA (Analog Terminal Adapter). The ATA can be connected to a standard telephone, tone or rotary, and you will be assigned a telephone number, calls are dialed on the phone just like your home phone, but you can only call other collectors. Service is provided by a friendly person who has Asterisk installed on a PC. If you want to use Rotary Phones, make sure your ATA supports them (Grandstream HT-502 does, is about $60 and has 2 lines – Look on E Bay).

2) Or, you install Asterisk Software on an old PC running Linux. You configure the software. This could be an advanced project for some. A Central Office code is obtained and you have hundreds of numbers and many possible extensions off of your system. Or, you buy a system that is pre-configured (see page 7)

What does this cost?

If you just want an extension off of someone's PBX, the Asterisk Server, your only cost will be the ATA box, that will be about $40 to $70. The ATA will support rotary dialing and will ring 3 standard telephones or 1 old telephone and one standard telephone.
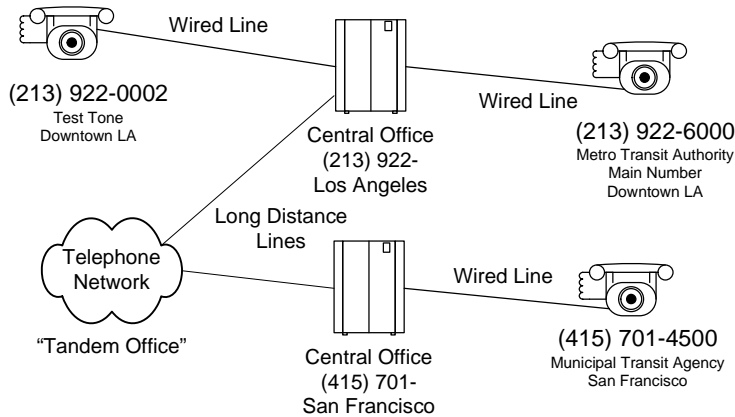
If you want to set up your own PBX or Central Office, you will need an old PC and some equipment, about $200 or so. The Asterisk Software is free; plus some time to configure the software.

Once you have it set up, there are no additional costs, no matter how many calls you make or how long you talk. Of course you will need Internet Service from a reliable carrier.

How Does This Work?

To start with, the is how a regular telephone call works

Wired Line

(213) 922-0002
Test Tone
Downtown LA

Central Office
(213) 922-
Los Angeles

Wired Line

(213) 922-6000
Metro Transit Authority
Main Number
Downtown LA

Long Distance
Lines

Telephone
Network

"Tandem Office"

Central Office
(415) 701-
San Francisco

Wired Line

(415) 701-4500
Municipal Transit Agency
San Francisco

Any telephone subscriber can call any other subscriber by dialing his number. If they are not local (in the same Central Office) the call completes over telephone company trunks (connections) to other subscribers, no matter where they are.

In this illustration, if a subscriber in downtown Los Angeles calls out of the area they must dial the Area Code for the other subscriber. HOWEVER, it is TOLL CALL and you will pay a fee for every minute you talk. The greater the distance the greater the fee.

Notes

How I got started with C*NET

A True Life Story

When I first started collecting phones I heard of a network called C*NET. I never really understood what it was or how to connect to it. Later on I met Daniel, who had been using C*NET for a while. I asked him how he got connected to it, and he said he had a thing called an ATA. One end plugs into a router and on the other end you plug in a phone. It even works with rotary phones! He got the ATA from someone with a Asterisk Server.
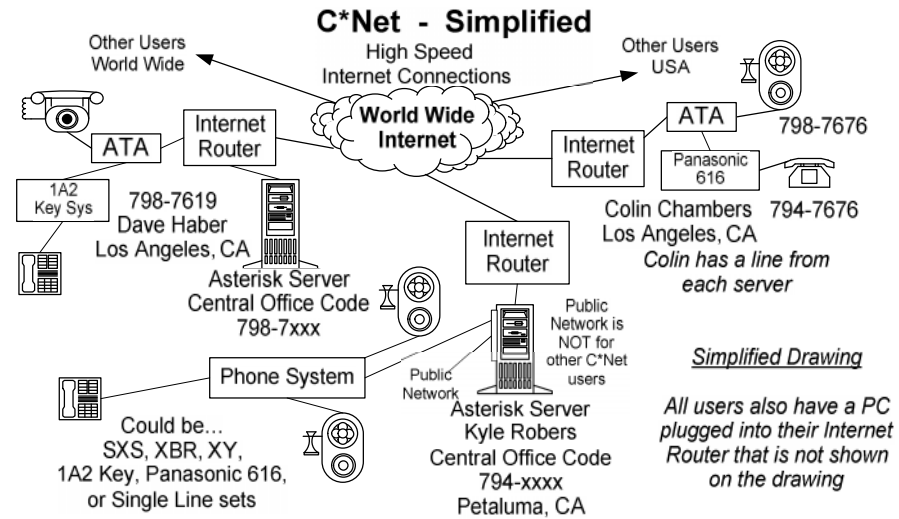
I wanted to be on C*NET too, so I emailed Daniel's friend and bought an ATA from him. Once I had this ATA I just plugged it into the router and then I plugged in the phone port to a line on my Panasonic PBX so it would act like a normal telephone line. The ATA had such great sound quality that I never knew if I was talking over the C*NET connection or the normal land line when answering calls.

This ATA worked great, but eventually I wanted to do more things. I decided to create my own C*NET exchange on the 794 prefix. I had no experience at all with Asterisk. At first it was discouraging because Asterisk is a complex system and I couldn't find any good guides for new users online. Colin Chambers was also on C*NET at this time, being provided service through his friend, Dave. I decided to call him and ask him how to set it up. Dave was very friendly and helpful. He walked me through the steps, and there wasn't that many things I had to configure. Much of the settings were just left default. All I needed was an old PC, electricity, and an internet connection.

I downloaded Trixbox online; with Trixbox it installs Asterisk and Linux together for you. Trixbox is configured over a web connection, which means you don't even have to be near the Asterisk computer to set it up. If all you want is a basic C*NET connection, then just get an ATA and find someone to host you. If you want to do more, then setting up a C*NET exchange is a very rewarding thing to do. I went into setting up my own C*NET exchange with **no** experience in Asterisk. I'm sure that if I can, then so can you with a little help. C*NET is a great network and is a wonderful thing to be a part of!

C*Net is a group of friends who keep in touch by free phone calls. If you want to get started then ask other telephone collectors, at least one of them will know someone who can help you.

As of this date, I am in the 10th Grade in High School

Kyle Roberts – PenguinTel.Com   6

C*Net - Simplified

Think of the Internet as the long distance lines and the Asterisk Server as a Central Office/Tandem, then both of the diagrams look about the same. Also imagine this drawing duplicated about 100 times. Each telephone collector on the network has a server working like a Central Office.

Added are ATAs to connect the telephones to the Internet. Note: Not all ATAs support rotary dialing.

No matter who you call on the network and how long you talk, there is no cost per call.

When you use it, you pick up the telephone, listen for dial tone and dial the number you want. It sounds just like a regular telephone line. You cannot call regular telephone lines, but there are inbound portals from regular telephone lines to C*Net.

If you are a subscriber, like Colin Chambers, it is plug and play – once you find someone to provide you service from his server. Just plug in the ATA and start dialing. If you want to get yourself a server, there is some programming that will need to be done, but you do not need to be a professional programmer, just a good PC user.

Advanced users can add a long distance carrier for outbound toll calls that delivers service over the Internet. This can also be configured for inbound calls.

Using multiple ATAs, or a plug in card, you can set up all your old rotary dial phones to call each other using your Asterisk Server as a Central Office.

3

Frequently Asked Questions
From PenguinTel   Kyle Roberts

Q. How much does C*NET cost?
A. $0.00 (Monthly Service), you do need Internet service and an ATA, The Grandstream Ht-502 provides 2 lines.

Q. How can something as awesome as C*NET be free?
A. C*NET travels entirely over VoIP, which uses the internet. Just as it is free to email people, it is free to call people using the internet as the means to carry the data.

Q. Why are you so excited to add people to C*NET and your switch on the 794 prefix? (This is the C*Net assigned prefix to PenguinTel)
A. It's fun for us to run the 794 exchange and we want to help the C*NET network grow.

Q. I just want a basic ATA that works with rotary phones. What should I get.
A. A Grandstream HT502. Check E Bay for prices., or Google it.

Q. How many users can you add?
A. PenguinTel can add 24 users to the system. We have enough bandwidth to support eight simultaneous calls, and typically only 1/3 of users are using the phone at once.

Q. Why won't you add me to your exchange?
A. The only reason we wouldn't add you is if we had more than 24 users. Currently this is not the case and we have plenty of room for growth.

Q. Do ATAs use a lot of electricity?
A. Nope, just about ten watts.

Q. How do I dial another C*NET user?
A. If you and the person you want to call are hosted on the PenguinTel switch on the 794 prefix, you only have to dial the last four digits of the C*NET number. If the person you want to call is not hosted on the Penguintel exchange, then you will need to dial the full 7 digit C*NET number.

Q. Is there a way for a person who doesn't have C*NET to call my C*NET number?
A. Yes. They can dial in from one of the portal numbers found on the C*NET website.

Q. Can I dial a normal, non C*NET number from C*NET?
A. Yes and no. On our 794 exchange, a user can dial any United States toll free number. You cannot dial a normal number though, because then that call would cost us money. PenguinTel is not aware of any other C*NET provider who allows users to dial toll free numbers from their C*NET number, so this is a unique feature of PenguinTel. Basically, C*NET is not a replacement for your landline, but rather a powerful addition to your communications arsenal.

Q. Does C*NET support caller id?'
A. Yes we do.

Q. Does C*NET have voicemail?
A. PenguinTel supports voicemail, but it is optional. We know many users will prefer to use their own answering machines.

Q. Can I choose my own number?
A. Yes, but remember it will start like this 794-XXXX (If you get service from PenguinTel). We cannot have numbers that start with 1, 8, or 9, but all other numbers are free for taking. You can even have a number like 794-0009. Or, look at the letters on your dial and spell something.

Q. Who can I talk to, so I can get started on C*Net?
A. One choice is to find another telephone collector you know who has the service and ask him. Or, find someone on C*Net who lives near you and give him a call. C*Net is all about friends.

Q. I have more questions that haven't been answered here.
A. Go to my website – www.penguintel.com

*PenguinTel.com is a web site operated by Kyle Roberts and it is about his C*Net system, prefix 794. There are many other C*Net systems out there. Each one is independent. Look at ckts.info, the C*Net site, and go to the directory to find other users and systems.*